



09/680,286

2856

JP

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of: PATON

Serial No.: 09/680,286

Filing Date: April 6, 2000

Title: REMOTE MONITORING OF CRITICAL PARAMETERS FOR CALIBRATION  
OF MANUFACTURING EQUIPMENT AND FACILITIES

TRANSMITTAL

Final Office Action mailed by the examiner: Sept. 4<sup>th</sup>, 2003.

Response to the Final Office Action mailed: Nov. 17<sup>th</sup>, 2003.

Advisory Action mailed by the examiner on Feb. 12<sup>th</sup>, 2004.

Response to Advisory Action mailed: April 6<sup>th</sup>, 2004

Petition to Revive Unavoidably Abandoned Application mailed: April 6<sup>th</sup>, 2004.

Petition to Revive Unintentionally Abandoned Application mailed: June 7<sup>th</sup>, 2004

Decision to Dismiss Unavoidably Abandoned Application mailed: May 20<sup>th</sup>, 2004.

Deadline to respond to the May 20<sup>th</sup> Dismissal: July 20<sup>th</sup>, 2004.

Decision to Dismiss Petition to Revive Unintentionally Abandoned Application mailed:  
Dec. 6<sup>th</sup>, 2004.

Request for reconsideration of examination: mailed January 26<sup>th</sup>, 2005.

Examiner: NOLAND, Thomas P.

Legal Instruments Examiner (LIE): Jovana Hayes

Group Art Unit: 2856

Request for Reconsideration of Examination

Filing date: 10/6/2000

Serial No: 09/680,286

Title: REMOTE MONITORING OF CRITICAL PARAMETERS FOR CALIBRATION OF  
MANUFACTURING EQUIPMENT AND FACILITIES

Date mailed: 1/26/05

Art Unit: 2856

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Derek L. Woods

Office of Petitions

P.O. Box 1450

Alexandria, VA 22313-1450

### TRANSMITTAL

Dear Sir:

Enclosed please find the following documents related to the above-entitled patent application:

1. **Request for Reconsideration of Petition under 37 CFR 1.137**, which begins on page 3 of this paper.
2. **Amendments to the Claims** are reflected in the listing of claims which begins on page 5 of this paper.
3. **Remarks and Conclusions** begin on page 7 of this paper.
4. Return Receipt Postcard.

Respectfully submitted,

Eric Paton, Applicant

By: 

Date: 1/25/05

Eric Paton, Applicant

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CERTIFICATE OF MAILING

I hereby certify that this paper and the documents attached hereto are being deposited in a postage prepaid, sealed envelope with Federal Express service under 37 CFR 1.08 on the date indicated and is addressed to:

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Randolph Building  
Mail Stop: Petitions, Derek L. Woods  
401 Dulany Street  
Alexandria, VA 22314

Signed:  Date mailed: 1/25/05

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**Request for Reconsideration of Petition under 37 CFR 1.137**

Dear Sir:

Thank you for your continued expedient examination of the present Application. The Decision to DISMISS the Petition to Revive Unintentionally Abandoned Application mailed 12/6/04 by the Office of Petitions was received by the applicant. The applicant now requests to RESUBMIT the Petition to Revive an Unintentionally Abandoned Application. In a telephone conversation on 1/24/05, examiner Noland revealed an unintentional omission by the applicant in Claim 34 . Claim 34 was drafted by examiner Noland in the Advisory Action mailed Feb. 12<sup>th</sup>, 2004. This Resubmission of the Petition is intended to correct those errors, as pointed out by the examiner.

Respectfully submitted,

Eric Paton, Applicant



By: Eric Paton, Applicant

Date: 1/25/05

In response to the Advisory Action mailed 2/12/04, please amend the above application as follows:

## **Proposed Response**

### **AMENDMENT – Claims**

This listing of claim(s) will replace all prior versions, and listings, of claims in the application:

#### **Listing of Claims:**

Cancel claims 18-33

Claims 1-33 (canceled)

Add new claim 34 as follows:

Claim 34 (New) An apparatus for measuring parameters used in manufacturing an integrated circuit or a micromechanical device in microelectronic processing without evasive interruptions to manufacturing equipment, the parameters selected from the group consisting of temperature, liquid and gas flow rate, distance, particles, humidity, pressure, viscosity, radiation, velocity, density, acceleration, stress/strain, pH, and the parameters determined using techniques selected from the group consisting of Energy Dispersive x-ray Spectroscopy (EDS), Cathodoluminescence (CL), X-ray Photoelectron Spectroscopy (*XPS*), Ultraviolet Photoelectron Spectroscopy (UPS), Auger, Electron Spectroscopy (*AES*), Reflection High Energy Electron Diffraction (REELS), X-ray Fluorescence (*XRF*), Photoluminescence (PL), Modulation Spectroscopy, Variable Angle Spectroscopic Ellipsometry (VASE), Fourier Transform Infrared Spectroscopy (FTIR), Raman Spectroscopy, Solid State Nuclear Magnetic Resonance (NMR), Rutherford Backscattering Spectroscopy (RBS), Elastic Recoil Spectroscopy (ERS), Ion Scattering Spectroscopy (ISS), Residual Gas Analyzer (RGA), Dynamic/Static Secondary Ion Mass

Spectroscopy, Laser Ionization Mass Spectroscopy (LIMS), Sputtered Neutral Mass Spectroscopy (SNMS), Glow Discharge Mass Spectroscopy (GDMS), Inductively Coupled Plasma Mass Spectroscopy, Inductively Coupled Plasma Optical Emission Spectroscopy, Neutron Diffraction, Neutron Reflectivity, Neutron Activation Analysis (NAA), Nuclear Reaction Analysis (NRA) and combinations thereof, the apparatus comprising:

one or more sensors, the one or more sensors attached to a surface on the integrated circuit or micromechanical device for collecting data therefrom;

an electronic device for processing data collected from the one or more sensors; and an energy source for the electronic device, wherein said sensors and electronic device reside completely on the surface of the integrated circuit or micromechanical device;

wherein the energy source is a battery functional at temperatures up to 150°C;

wherein the electronic device comprises an analog to digital converter, a signal conditioning device, and a solid state memory device for collecting data;

the apparatus further comprising an external wireless receiving module wherein the collected data is transmitted digitally in real-time from the electronic device to the external wireless receiving module;

the apparatus further comprising an isolation material to protect the electronic device from hostile manufacturing or processing environments;

and wherein the one or more sensors, the electronic device components and the battery are radiation hard.

### REMARKS - General

Applicant is grateful for the examiner's suggested amendments to the claims. Applicant accepts all suggested amendments by the examiner. Applicant has CANCELED claims 18-33, and has added NEW ALLOWABLE claim 34 as recommended by the examiner. No other changes are made to the new claim, except those recommended by the examiner. Applicant requests authorization to correct minor informalities.

### CONCLUSIONS

Applicant respectfully submits that for all the foregoing reasons, the claimed subject matter describes patentable invention. Furthermore, Applicant submits that the specification is adequate and that the claims are in a condition for allowance. No new matter has been entered.

Respectfully submitted,

Eric Paton, Applicant

By:  \_\_\_\_\_

Date: 1/25/05

Eric Paton, Applicant

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